

REMARKS

Upon entry of the amendments, claims 36-37, 40-41, and 44-47 are pending. Claims 31-35, 38, 39, 42 and 43 have been cancelled. Applicants reserve the right to pursue the subject matter of these claims in one or more continuing applications. Claims 36 and 40 have been amended, and new claims 44-47 have been added. Support for the amendments to claims 36 and 43 can be found in the specification at page 22, line 20 - page 23, line 5. Support for new claims 44-47 can be found in cancelled claims 31-35, and in the specification at pages 32, line 20, page 49, lines 11-12, and Examples 3 and 4. No new matter is added.

Rejections under 35 U.S.C. §102

US 6,884,773

Claims 31-32 and 34-38 have been rejected under 35 U.S.C. §102(e) as being anticipated by Stamler, US 6,884,773 ('773). According to the Examiner, '773 describes claims the same end product, nitrosohemoglobin, with the same starting material, oxyhemoglobin, with the same buffer, 10 mM phosphate. Additionally, the Examiner asserts that the redox chemistry would necessarily have to be maintained and the ratios of the free NO to heme would be the same (*See* Office Action, section 4, page 4).

Claims 31-32, 34-35, and 38 have been cancelled. This rejection is therefore moot with respect to these claims. Independent claim 36 has been amended herein to incorporate the limitation of claim 39 to recite a method for producing S-nitrosohemoglobin.....under conditions comprising.....c) preserving the redox chemistry of hemoglobin by adding a redox modifier, wherein the redox modifier is nitrite, as suggested by the Examiner (*See* Office Action, section 9, page 8). Applicants traverse with respect to the claims as amended herein.

The '773 patent does not describe or suggest a method for producing S-nitrosohemoglobin under conditions whereby the redox chemistry of hemoglobin is preserved by adding the redox modifier, nitrite, as required by claim 36 as amended herein. Furthermore, the Examiner acknowledges that '773 is silent with respect to preserving the redox chemistry (*See* Office Action, section 4, page 4). As such, '773 does not teach or suggest every element of the invention as claimed herein. Accordingly,

Applicants submit that claim 36, and the claims which depend therefrom, are not anticipated by the '773 patent, and respectfully request that this rejection be withdrawn.

US 6,911,427

Claims 31-32, 34-38 and 40-41 have been rejected under 35 U.S.C. §102(e) as being anticipated by Stamler, US 6,911,427 ('427). According to the Examiner, '427 teaches NO added to oxyhemoglobin in 10 mM phosphate buffer, pH 7.4, at a ratio of less than 1:30 NO:Hb, to result in the formation of SNO-oxyHb with minimal formation of methHb (*See Office Action*, section 5, page 4).

Claims 31-32, 34-35, and 38 have been cancelled, rendering this rejection moot with respect to these claims. Independent claim 40 has been amended herein to incorporate the limitation of claim 43 to recite a method for producing intraerythrocytic-S-nitrosohemoglobin.....under conditions comprising.....c) preserving the redox chemistry of hemoglobin by adding a redox modifier, wherein the redox modifier is nitrite, as suggested by the Examiner (*See Office Action*, section 9, page 8). Applicants traverse with respect to the claims as amended herein.

The '427 patent does not describe or suggest a method for producing S-nitrosohemoglobin under conditions whereby the redox chemistry of hemoglobin is preserved by adding the redox modifier, nitrite, as required by claim 40 as amended herein. Additionally, the Examiner confirms that '427 is silent with respect to preserving the redox chemistry (*See Office Action*, section 4, page 4). Because '427 does not teach or suggest every element of the invention as claimed herein, Applicants submit that claim 40, and the claims which depend therefrom, are novel over the '427 patent and respectfully request that this rejection be withdrawn.

WO 98/34955

Claims 31-32, 34-38, and 41 have been rejected under 35 U.S.C. 102(b) as being anticipated by Stamler, WO 98/34955 ('955). According to the Examiner, '955 teaches NO added to oxyhemoglobin in 10 mM phosphate buffer, pH 7.4, at a ratio of less than 1:30 NO: Hb to result in the formation of SNO-oxyHb with minimal formation of methHb.

Claims 31-32, 34-35 and 38 have been cancelled. This rejection is therefore moot as applied to these claims. As previously stated, claims 36 and 40 have been amended to incorporate the limitations of claims 39 and 43 respectively, to recite the limitation of “preserving the redox chemistry of hemoglobin by adding a redox modifier, wherein the redox modifier is nitrite”, as suggested by the Examiner (*See* Office Action, section 9, page 8).

The ‘955 patent does not describe or suggest preservation of the redox chemistry by the addition of redox modifiers such as nitrite, as required by the amended claims herein. In fact, the Examiner acknowledges that ‘955 is silent with respect to preserving the redox chemistry (*See* Office Action, section 6, page 5). As such, ‘955 does not teach or suggest every element of the invention as claimed herein. Accordingly, Applicants submit that independent claims 36 and 40, and the claims which depend therefrom, are not anticipated by the ‘955 patent, and request that this rejection be withdrawn.

Double Patenting Rejections

Claims 31-32, 34-38, and 40-41 have been rejection on the ground of nonstatutory obviousness-type double patenting over claim 3 of U.S. Patent No. 6,994,773 (‘773) and on the grounds of being patentably indistinct from claim 3.

Claims 31-32, 34-35 and 38 have been cancelled, rendering this rejection moot as applied to these claims. As previously stated, independent claims 36 and 40 have been amended to incorporate the limitations of claims 39 and 43 respectively, to recite the limitation of “preserving the redox chemistry of hemoglobin by adding a redox modifier, wherein the redox modifier is nitrite”. Claim 3 of the ‘773 patent does not include any such limitation. In fact, the Examiner acknowledges that claim 3 of the ‘773 patent is silent with respect to “preserving the redox chemistry”. Since claim 3 of the ‘773 patent does not incorporate all of the limitations of the claims as amended herein, Applicants submit that claims 36 and 40, and the claims which depend therefrom, are patentably distinct from claim 3 of the ‘773 patent, and respectfully request withdrawal of this rejection.

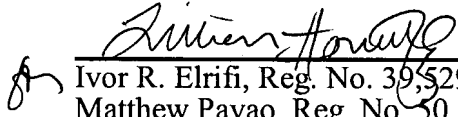
Claim Objections

Claims 39 and 43 have been objected to as being dependent upon a rejected base claim. The Examiner asserts these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims (*See* Office Action, section 9, page 8). In accordance with this suggestion, Applicants have incorporated the limitations of claims 39 and 43 into independent claims 36 and 40, respectively. Applicants have further cancelled dependent claims 38-39 and 42-43. Applicants thank the Examiner for the suggestion and respectfully request the allowance of the claims as amended herein.

CONCLUSION

On the basis of the foregoing amendment and remark, Applicants respectfully submit that the pending claims are in condition for allowance. Should any questions or issues arise concerning this application, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

Respectfully submitted,

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